LPDES PERMIT NO. LA0000752, AI No. 1433

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Lion Copolymer Geismar, LLC
Geismar Facility
Post Office Box 397
Geismar, Louisiana, 70734

II. Issuing Office: Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. Prepared By: Jenniffer Sheppard
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Date Prepared: March 17, 2009. Revised on April 16, 2009.

IV. Permit Action/Status:

A. Reason For Permit Action:

LDEQ proposes to reissue a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

B. NPDES permit - NPDES permit effective date: NA
NPDES permit expiration date: NA
EPA has not retained enforcement authority.

C. LPDES permit - LPDES permit effective date: October 1, 2003
LPDES permit expiration date: September 30, 2008

D. Application received on April 4, 2008. Additional information dated December 2, 2008, March 17, 2009, and additional e-mail correspondence dated March 20, 2009 and April 16, 2009.

V. Facility Information:

A. Location - 36191 Louisiana Highway 30 in Geismar

B. Applicant Activity -

According to the application, Lion Copolymer Geismar, LLC, Geismar Facility, is an integrated chemical manufacturing facility which produces synthetic rubber and industrial and agricultural organic chemicals.

Process wastewaters, process and non-process area stormwater, plant washdown water, and hydroblast water from the Synthetic Rubber Manufacturing Area and plant wash water and process area stormwater from the Chemicals Area are treated, sampled for compliance purposes, and sent to the neighboring facility, LC Geismar Services, LLC (LPDES Permit LA0006220) for discharge to the Mississippi River.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Organic Chemicals, Plastics, and Synthetic Fibers Process Flow - 0.15696 MGD	40 CFR 414, Subparts H and J
Rubber Manufacturing Point Source Category Process Flow - 0.90864 MGD Daily Production - 700,000 lbs/day	40 CFR 428, Subpart C

Other sources of technology based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
Light Commercial General Permit, LAG480000
Best Professional Judgment

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2822, 2869, and 2899

E. Continuous Facility Effluent Flow - estimated flow of 1.47312 MGD.

The flow identified above is an estimated value based on current outfall flow and the projected flows from wastewaters historically sent for deep well injection which are proposed for discharge under this LPDES permit. Technology and water quality based effluent limitations have been calculated using the estimated flow since these new discharges will commence upon the effective date of this permit.

VI. **Receiving Waters:** The Mississippi River via outfall at neighboring facility, LC Geismar Services, LLC (LPDES Permit LA0006220) for (Outfall 001) and the New River via local drainage (Outfall 002)

New River via local drainage - Outfall 002

1. River Basin: Lake Pontchartrain Basin, Segment No. 040404
2. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

The Mississippi River via outfall at neighboring facility, LC Geismar Services, LLC (LPDES Permit LA0006220) (Outfall 001)

1. TSS (15%), mg/L: 32
2. Average Hardness, mg/L $CaCO_3$: 153.4
3. Critical Flow, cfs: 141,955
4. Mixing Zone Fraction: 0.33333
5. Harmonic Mean Flow, cfs: 366,748
6. River Basin: Mississippi River Basin, Segment No. 070301
7. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: LAC 33:IX Chapter 11. Hardness and 15% TSS data come from monitoring station 319 on the Mississippi River east of Plaquemine, listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This information was presented in a memorandum from Todd Franklin to Jenniffer Sheppard, dated May 23, 2009 (See Appendix C).

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the continuous discharge of treated process wastewater and process area stormwater from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; non-process area stormwater runoff; tank farm stormwater; cooling tower blowdown from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; laboratory wastewater; overflow from the Celogen AZ Unit holding pond which receives stormwater and firewater; leachate from the closed landfill; groundwater purged from the closed landfill monitoring well system; and miscellaneous operational and maintenance wastewaters including but not limited to plant washdown water, fire water, and hydroblast waters.

B. Location - at the point of discharge on the west side of the facility next to the Quality Assurance Laboratory, prior to mixing with any other wastewaters, at Latitude 30°12'17", Longitude 91°00'29".

C. Treatment - treatment of process wastewaters, process and non-process area stormwater, plant washdown water, hydroblast water from the Synthetic Rubber Manufacturing Area, and plant wash water and process area stormwater from the Chemicals Area consists of:

- skimmed for floating rubber solids (rubber mfg. area ww only)
- neutralization
- equalization
- flocculation
- dissolved air flotation (DAF)
- settling

Treatment - treatment of cooling tower blowdown, non-process area stormwater, firewater, laboratory wastewater, groundwater, Celogen AZ process wastewater, and Celogen AZ holding pond overflow consists of:

- none

Optional Treatment - laboratory wastewater and Celogen AZ process wastewaters consists of:

- neutralization
- equalization
- flocculation
- dissolved air flotation (DAF)
- settling

D. Flow - Continuous Flow 1.47312 MGD.

Chemical Mfg. Process Wastewater*	0.15696 MGD
Synthetic Rubber Mfg. Process Wastewater*	0.90864 MGD
Utility Wastewater*	0.26640 MGD
Miscellaneous Wastewater*	0.14112 MGD

* Specific component waste streams are defined at Appendix A-1.

E. Receiving waters - The Mississippi River via outfall at neighboring LC Geismar Services, LLC (LA0006220).

F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 002

A. Type of wastewater - the intermittent discharge of low contamination potential stormwater runoff from site-wide non-process area stormwater; fire water pond and warehouse fire water overflow; Celogen AZ holding pond stormwater overflow; stormwater discharges from lagoon; non-process area stormwater and condensate from adjacent facilities, Rubicon Inc. and Dynamic Fuels LLC; miscellaneous operational and maintenance wastewaters; stormwater from formerly used process areas; and optional routing of cooling tower blowdown from the Synthetic Rubber and Chemicals Manufacturing Areas.

B. Location - at the point of discharge from the northeast stormwater ditch, prior to entering the Louisiana Highway 30 ditch and commingling with any other wastewaters at Latitude 30°12'46", Longitude 90°59'59".

C. Treatment - treatment of these wastewaters consists of:
- none

D. Flow - Intermittent, estimated flow of 0.1656 MGD.

E. Receiving waters - New River via local drainage.

F. Basin and segment - Lake Pontchartrain Basin, Segment 040404.

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. Outfall 001 - The synthetic rubber manufacturing production rate has decreased from the current LPDES permit rate of 857,000 lbs/day to 700,000 lbs/day. Limitations associated with these discharges have been calculated in accordance with 40 CFR 428 Subpart C (Solution Crumb Rubber Subcategory).

B. Outfall 001 - Process wastewaters from the Chemical Manufacturing Areas were previously sent for deep well injection. Lion Copolymer Geismar, LLC has requested approval to discharge this wastewater through Outfall 001. Therefore, OCPSF limitations have been established and calculated in accordance with OCPSF Guidelines at 40 CFR 414, Subparts H and J (Speciality Organic Chemicals Subcategory that does not use end of pipe biological treatment) based on a proposed process flow of 0.15696 MGD.

C. Outfall 001 - The applicant has requested to remove treated groundwater from future pump and treat operations from the outfall description and reduce the monitoring frequencies for Toluene and 1,2-Dichloroethane. Both requests have been granted. The 1/week monitoring frequency for Toluene and 1,2-Dichloroethane was originally established due to the provision to allow treated groundwater from future pump and treat operations. Therefore, since this wastewater type is no longer a potential discharge source, the remaining sources have been re-evaluated to establish appropriate monitoring frequencies. The frequency for Toluene has been reduced to 1/6 months since the pollutant is expected to be on site, but present at levels below water quality standards. The frequency for 1,2-Dichloroethane has been reduced to 1/year since it is not expected to be on site.

D. Outfall 001 - The applicant has indicated that chemicals containing toluene will be used in the Synthetic Rubber Manufacturing Process for discharged through Outfall 001. Since these discharges commingle with discharges from the chemical manufacturing areas which are covered under OCPSF Guidelines at 40 CFR 414, Subpart J. This Office has determined that it is appropriate to establish limitations for these wastewaters based on best professional judgment using the toluene concentrations from the OCPSF Guidelines. The process flow for synthetic rubber manufacturing is 0.90864 MGD. These limitations have been added to the wastewaters identified in Section VIII.B, above.

E. Outfall 001 - The permittee identified the presence of zinc in the facility's leak detection system for the closed landfill and from wash downs from Celogen AZ Unit, both are OCPSF process wastewaters. Therefore, monthly average and daily maximum limitations have been established in accordance with the OCPSF requirements at 40 CFR Part

414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment. The limitations were calculated based on the flow of the OCPSF metal bearing wastewaters (0.0576 MGD).

F. Outfall 001 - The applicant requested that the monitoring frequencies for pH, BOD_5, TSS, Oil & Grease, and COD at Outfall 001 be reduced from 3/week to 1/week based on its historical compliance performance. This request has been partially granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies". The measurement frequencies for pH, Oil & Grease, and COD have been changed from 3/week to 1/week. BOD_5 and TSS have been retained at 3/week based on permit excursions on January 31, 2007 for BOD_5 and September 30, 2008 for TSS.

G. Outfall 001 - The applicant requested to modify the pH limitations from 6.0-9.0 s.u. to 6.0-9.5 s.u. to allow for increased solids removal in the dissolved air flotation (DAF) unit. This request has been denied. In accordance with the Federal Guidelines at 40 CFR 428 and 40 CFR 414, the pH for these wastewaters shall be maintained between 6.0 and 9.0 s.u. at all times.

H. Outfall 002 - Lion Copolymer Geismar, LLC has requested approval to discharge cooling tower blowdown from the Chemicals Manufacturing Area through this outfall as an optional discharge. This request has been granted. Based on the addition of this wastestream, the following new requirements have been established based on best professional judgment: Temperature °F - Report monthly average and daily maximum, and Additives - Report monthly average and daily maximum.

I. Outfall 002 - a new requirement prohibiting the use of any additives or corrosion inhibitors containing any of the 126 priority pollutants has been added based on best professional judgment.

J. Outfall 002 - The applicant requested that the monitoring frequencies for TOC and Oil & Grease be reduced from 1/week to 2/month based on its historical compliance performance. This request has been partially granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies". The measurement frequency for Oil & Grease has been changed from 1/week to 2/month. TOC has been retained at 1/week based on the TOC excursion on December 31, 2008.

K. A new requirement has been established in Part II of the permit for unauthorized discharges, which could potentially adversely affect a nearby drinking water facility. This requirement reads as follows:

> In the event that an unauthorized discharge, which could potentially adversely affect a nearby drinking water facility, the discharger shall notify that drinking water facility immediately, but in no case later than one (1) hour after learning of the discharge, by telephone or other rapid communication means. This is in addition to the notification requirements in Part III of the permit.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)].

1. Outfall 001 - Process Wastewaters

*Outfall 001 - the continuous discharge of treated process wastewater and process area stormwater from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; non-process area stormwater runoff; tank farm stormwater; cooling tower blowdown from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; laboratory wastewater; overflow from the Celogen AZ Unit holding pond which receives stormwater and firewater; leachate from the closed landfill; groundwater purged from the closed landfill monitoring well system; and miscellaneous operational and maintenance wastewaters including but not limited to plant washdown water, fire water, and hydroblast waters.

Lion Copolymer Geismar, LLC, Geismar Facility is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
*Organic Chemical Manufacturing	40 CFR 414, Subpart(s) H and J

Subpart H = Specialty Organic Chemicals makes up 100% of the production at Lion Copolymer Geismar, LLC - Geismar Facility.

Subpart J = Direct Discharge Point Sources That Do Not Use End-Of-Pipe Biological Treatment.

Manufacturing Operation	Guideline
*Synthetic Rubber Manufacturing	40 CFR 428 Subpart C, Solution Crumb Rubber Subcategory

Production Rate = 700,000 lbs/day solution crumb rubber.

The following wastestreams and flows were identified for this Outfall:

OCPSF Process	Flow, MGD	GPM
Chemicals Area Proc Area SW	0.08352	58
Chemicals Area Wash Water	0.01296	9
Groundwater Recovery/Leachate	0.04464	31
Laboratory WW	0.01584	11
TOTAL OCPSF PROCESS FLOW:	0.15696	109
Synthetic Rubber Mfg Process		
Rubber Mfg Process WW	0.79056	549
Rubber Mfg Proc & Non- Proc SW	0.10368	72
Rubber Mfg Washdown & Hydoblasting	0.01296	9

Laboratory WW	0.01584	11
Solids to Off-Site Disposal	-0.0144	-10
TOTAL RUBBER PROCESS FLOW:	**0.90864**	**631**
Miscellaneous Wastewaters		
Tank Farm SW	0.01008	7
Celogen AZ Holding Pond	0.00576	4
Firewater	0.02592	18
Chemical Area Non-Proc SW	0.09936	69
TOTAL MISCELLANEOUS FLOWS:	**0.14112**	**98**
Utility Wastewaters		
Rubber Mfg Area CTBD	0.19008	132
Chemical Area CTBD	0.07632	53
TOTAL UTILITY WW FLOWS:	**0.26640**	**185**
TOTAL OUTFALL 001 FLOWS:	**1.47312**	**1023**

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			Continuous
pH (Standard Units)	---	---	6.0 (Min)	9.0 (Max)	1/week
BOD_5	356	611	---	---	3/week
TSS	564	994	---	---	3/week
Oil & Grease	112	168	---	---	1/week
COD	1923	3359	---	---	1/week
Total Zinc (mb)	0.50	1.25	---	---	1/quarter
Acrylonitrile	0.12	0.30	---	---	1/year
Benzene	0.07	0.18	---	---	1/year
Carbon Tetrachloride	0.19	0.50	---	---	1/year
Chlorobenzene	0.19	0.50	---	---	1/year
Chloroethane	0.14	0.39	---	---	1/6 months
Chloroform	0.15	0.43	---	---	1/year

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
1,2-Dichlorobenzene	0.26	1.04	---	---	1/year
1,3-Dichlorobenzene	0.19	0.50	---	---	1/year
1,4-Dichlorobenzene	0.19	0.50	---	---	1/year
1,1-Dichloroethane	0.03	0.08	---	---	1/year
1,2-Dichloroethane	0.24	0.75	---	---	1/year
1,1-Dichloroethylene	0.03	0.08	---	---	1/year
1,2-trans-Dichloroethylene	0.03	0.09	---	---	1/year
1,2-Dichloropropane	0.26	1.04	---	---	1/6 months
1,3-Dichloropropylene	0.26	1.04	---	---	1/year
Ethylbenzene	0.19	0.50	---	---	1/year
Methyl Chloride	0.14	0.39	---	---	1/year
Methylene Chloride	0.05	0.22	---	---	1/year
Tetrachloroethylene	0.07	0.21	---	---	1/year
Toluene	0.31	0.78	---	---	1/6 months
1,1,1-Trichloroethane	0.03	0.08	---	---	1/year
1,1,2-Trichloroethane	0.04	0.17	---	---	1/year
Trichloroethylene	0.03	0.09	---	---	1/year
Vinyl Chloride	0.13	0.23	---	---	1/year
2,4-Dimethylphenol	0.02	0.06	---	---	1/year
4,6-Dinitro-o-cresol	0.10	0.36	---	---	1/year
2,4-Dinitrophenol	1.58	5.62	---	---	1/year
2-Nitrophenol	0.09	0.30	---	---	1/year
4-Nitrophenol	0.21	0.75	---	---	1/year
Phenol	0.02	0.06	---	---	1/6 months

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Acenaphthene	0.02	0.06	---	---	1/year
Acenaphthylene	0.02	0.06	---	---	1/year
Anthracene	0.02	0.06	---	---	1/year
Benzo(a)anthracene	0.02	0.06	---	---	1/year
Benzo(a)pyrene	0.03	0.06	---	---	1/year
3,4-Benzofluoranthene	0.03	0.06	---	---	1/year
Benzo(k)fluoranthene	0.02	0.06	---	---	1/year
Bis(2-ethylhexyl)phthalate	0.12	0.34	---	---	1/year
Chrysene	0.02	0.06	---	---	1/year
Diethyl phthalate	0.06	0.15	---	---	1/year
Dimethyl phthalate	0.02	0.06	---	---	1/year
Di-n-butyl phthalate	0.03	0.06	---	---	1/year
Fluoranthene	0.03	0.07	---	---	1/year
Fluorene	0.02	0.06	---	---	1/year
Hexachlorobenzene	0.26	1.04	---	---	1/year
Hexachlorobutadiene	0.19	0.50	---	---	1/year
Hexachloroethane	0.26	1.04	---	---	1/year
Naphthalene	0.02	0.06	---	---	1/year
Nitrobenzene	2.93	8.38	---	---	1/year
Phenanthrene	0.02	0.06	---	---	1/year
Pyrene	0.03	0.06	---	---	1/year
1,2,4-Trichlorobenzene	0.26	1.04	---	---	1/year

(mb) - metal bearing streams

Calculations and basis of permit limitations are found at Appendix A-1 and associated appendices. See below for site-specific considerations.

Site-Specific Consideration(s) for Outfall 001

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. and retained from the current LPDES permit effective on October 1, 2003. The continuous monitoring frequency has also been retained.

pH - this requirement has been established in accordance with LAC 33:IX.1113.C.1. and retained from the current LPDES permit effective on October 1, 2003. A company request for frequency reduction from 3/week to 1/week has been granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies".

BOD_5 and TSS - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart H using an OCPSF process wastewater flow of 0.15696 MGD and a production rate of 700,000 lbs/day for Synthetic Rubber Manufacturing under 40 CFR 428, Subpart C. Additionally, allocations have been granted for miscellaneous wastewater and utility wastewaters based on best professional judgment. Miscellaneous allocations are applied to a flow of 0.14112 MGD and based on a 5 mg/L monthly average concentration and 10 mg/L daily maximum concentration for BOD_5 and 10 mg/L monthly average concentration and 20 mg/L daily maximum concentration for TSS. Utility wastewater allocations are applied to a flow of 0.26640 MGD and based on a 5 mg/L monthly average concentration and 10 mg/L daily maximum concentration for BOD_5 and 10 mg/L monthly average concentration and 20 mg/L daily maximum concentration for TSS. A company request for frequency reduction from 3/week to 1/week has been denied based on permit excursions on January 31, 2007 for BOD_5 and September 30, 2008 for TSS.

Oil & Grease - monthly average and daily maximum limitations are based on Synthetic Rubber Manufacturing guidelines in accordance with 40 CFR 428, Subpart C using a production rate of 700,000 lbs/day. A company request for frequency reduction from 3/week to 1/week has been granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies".

COD - monthly average and daily maximum limitations are based on Synthetic Rubber Manufacturing guidelines in accordance with 40 CFR 428, Subpart C using a production rate of 700,000 lbs/day. Additionally, a COD to BOD_5 ratio of 6.15:1 has been applied based on best professional judgment to account for additional contributions from the OCPSF process, miscellaneous, and utility wastewaters. A company request for frequency reduction from 3/week to 1/week has been granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies".

Zinc - the permittee identified the presence of zinc in the facility's leak detection system for the closed landfill and from wash downs from Celogen AZ Unit, both OCPSF process wastewaters. Therefore, monthly average and daily maximum limitations have been established in accordance with the OCPSF requirements at 40 CFR Part 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment. The limitations were calculated based on the flow of the OCPSF metal bearing wastewaters (0.0576 MGD). The monitoring frequency has been established at 1/quarter based on best professional judgment.

Chloroethane, 1,2-Dichloropropane, and Phenol - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment using the OCPSF process flow of 0.15696 MGD. A monitoring frequency of 1/6 months has been established since these pollutant were present at levels above the minimum quantification level in the analytical results provided with the April 2008 LPDES permit renewal application. This frequency is appropriate since these pollutants are present, but not in levels that would cause or contribute to exceedances of water quality standards.

Toluene - monthly average and daily maximum limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment using all OCPSF process flow with the exception of the groundwater/leachate wastewater flow. The current LPDES permit applied a monthly average concentration of 0.2 mg/L and a daily maximum concentration of 0.4 mg/L for groundwater recovery discharges based on BPJ/BAT concentrations for similar discharges under an LPDES permit issued to DSM Copolymer, Addis Facility, with effective dates of July 18, 1988, October 11, 1993, and January 1, 2004. Additionally, Lion Copolymer has proposed to use treatment chemicals process containing toluene in their rubber manufacturing process wastewaters (as described in the April 16, 2009 additional information document). Since the rubber manufacturing wastewaters (0.90864 MGD) commingle with discharges from the chemical manufacturing areas which are covered under OCPSF Guidelines at 40

CFR 414, Subpart J, this Office has determined that it is appropriate to establish limitations for these wastewaters based on best professional judgment using toluene concentrations from the OCPSF Guidelines.

Wastewater Source Containing Toluene	Flow (MGD)	Applicable Guideline / Basis
OCPSF Process WW	0.11232	OCPSF Guidelines located at 40 CFR 414, Subpart J
Rubber Mfg Process WW	0.90864	Applied using BPJ -
		OCPSF Guidelines located at 40 CFR 414, Subpart J
Groundwater/Leachate WW	0.04464	Applied using BPJ - This methodology has been retained from current Lion Copolymer LPDES permit, effective on October 1, 2003. The concentrations were originally established based on similar discharges in the DSM Copolymer, Addis LPDES permit (LA0000922).
TOTAL TOLUENE FLOWS	1.0656	

Therefore, as indicated in the table above, OCPSF guidelines have been applied to a flow of 0.11232 MGD for OCPSF process wastewaters and to a flow of 0.90864 MGD for the rubber manufacturing process wastewater. Additional allocations were applied to a flow of 0.04464 for groundwater/leachate wastewater using concentrations retained from the current LPDES permit which were originally established using the DSM Copolymer, Addis LPDES permit (LA0000922) for similar wastewaters. The resulting limitations from the three sources have been summed to determine the final loadings for Toluene at this outfall.

The monitoring frequency for Toluene has been changed from 1/week to 1/6 months due to a Lion Copolymer request to remove approval to discharge treated groundwater from future pump and treat operations. The remaining contributing sources have been re-evaluated to establish appropriate monitoring frequency. A monitoring frequency of 1/6 months has been determined to be appropriate since Toluene is expected to be present, but not in levels that would cause or contribute to exceedances of water quality standards.

1,2-Dichloroethane - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment using the OCPSF process flow of 0.15696 MGD. The monitoring frequency for 1,2-Dichloroethane has been changed from 1/week to 1/year due to a Lion Copolymer request to remove approval to discharge treated groundwater from future pump and treat operations. The remaining contributing sources have been re-evaluated to establish appropriate monitoring frequency. A monitoring frequency of 1/year has been determined to be appropriate since 1,2-Dichloroethane is not expected to be on site.

Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroform, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,3-Dichloropropylene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2,4-Dimethylphenol, 4,6-Dinitro-o-cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, 1,2,4-Trichlorobenzene - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment using the OCPSF process flow of 0.15696 MGD. A monitoring frequency of 1/year has been established since these pollutants are not expected to be on site.

2. Outfall 002 - Commingled Utility Wastewaters and Stormwater Runoff

*Outfall 002 - the intermittent discharge of low contamination potential stormwater runoff from site-wide non-process area stormwater; fire water pond and warehouse fire water overflow; Celogen AZ holding pond stormwater overflow; stormwater discharges from lagoon; non-process area stormwater and condensate from adjacent facilities, Rubicon Inc. and Dynamic Fuels LLC; miscellaneous operational and maintenance wastewaters; stormwater from formerly used process areas; and optional routing of cooling tower blowdown from the Synthetic Rubber and Chemicals Manufacturing Areas.

Commingled utility wastewaters and low contamination potential stormwater runoff being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/week
TOC	---	---	---	50	1/week
Oil & Grease	---	---	---	15	2/month
Temperature, °F	---	Report (*1) (*2)	---	---	1/month
Additives	---	---	Report Inventory Calculation	Report Inventory Calculation	1/month
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/week

(*1) Instantaneous measurement.
(*2) The temperature at the edge of the mixing zone shall not exceed 90°F.

Site-Specific Consideration(s) for Outfall 002

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. and retained from the current LPDES permit effective on October 1, 2003. The 1/week monitoring frequency has also been retained.

TOC - the daily maximum limitation of 50 mg/L has been retained from the current LPDES permit effective on October 1, 2003. This limitation is established based on Best Professional Judgment and is consistent with this Office's current guidance on stormwater, as identified in a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). A company request for frequency reduction from 1/week to 2/month has been denied. TOC has been retained at 1/week based on the TOC excursion on December 31, 2008.

Oil & Grease - the daily maximum limitation of 15 mg/L has been retained from the current LPDES permit effective on October 1, 2003. This limitation has been established based on Best Professional Judgment and is consistent with this Office's current guidance on stormwater, as identified in a letter dated 6/17/87, from J. Dale

Givens (LDEQ) to Myron Knudson (EPA Region 6). A company request for frequency reduction from 1/week to 2/month was granted in accordance with the requirements stated in the USEPA Memorandum "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies".

Temperature (°F) - a daily maximum reporting requirement has been established on this outfall. This requirement is consistent with the requirements of the Light Commercial General Permit, Schedule F, for discharges of cooling tower blowdown to freshwater sources and has been applied based on best professional judgment. The monitoring frequency of 1/month has also been established based on best professional judgment and is consistent with the frequency established in Schedule F of the General Permit.

Additives - a monthly average and daily maximum inventory calculation requirement has been established for additives used at this outfall based on best professional judgment for information gathering purposes. The permittee shall prepare an attachment including the type and quantity of each additive 1/month and attach to the DMRs for this outfall on a quarterly basis.

pH - this requirement has been established in accordance with LAC 33:IX.1113.C.1. and retained from the current LPDES permit effective on October 1, 2003. The 1/week monitoring frequency has also been retained.

Additional Requirements Applicable to Stormwater from this Facility

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. **For first time permit issuance,** the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. **For renewal permit issuance,** the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2511.B.14 [40 CFR 122.26(b)(14)].

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

POLLUTANT(S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfall 001

The discharge from Outfall 001 includes treated process wastewater and process area stormwater from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; non-process area stormwater runoff; tank farm stormwater; cooling tower blowdown from the Synthetic Rubber Manufacturing and Chemical Manufacturing areas; laboratory wastewater; overflow from the Celogen AZ Unit holding pond which receives stormwater and firewater; leachate from the closed landfill; groundwater purged from the closed landfill monitoring well system; and miscellaneous operational and maintenance wastewaters including but not limited to plant washdown water, fire water, and hydroblast waters are to the Mississippi River via the neighboring LC Geismar Services WWTP, Segment No. 070301. The Mississippi River is not listed on the 2006 Final

Integrated Report as being impaired. Therefore, no additional requirements have been established in this permit.

Site-Specific Consideration(s) Related to Water Quality in the Mississippi River Basin for Outfall 001

The LDEQ is aware of the occurrence of a low oxygen hypoxic or "dead zone" in the Gulf of Mexico and its relationship to nutrients and fresh water from the Mississippi River and has developed a criteria development plan for state waters in coordination with EPA to create defensible nutrient criteria based on the best available science. Work on criteria for the Mississippi River is an ongoing effort and will require further scientific investigation because of the complex nature of the large Mississippi River watershed which includes over 30 states and two Canadian Provinces. A reopener clause has been established in the permit in accordance with LAC 33:IX.2903 which allows LDEQ to modify, or alternatively, revoke and reissue the permit to comply with any more stringent nutrient limitations or requirements that are promulgated in the future.

Outfall 002

The discharge from outfall 002 includes low contamination potential stormwater runoff from site-wide non-process area stormwater; fire water pond and warehouse fire water overflow; Celogen AZ holding pond stormwater overflow; stormwater discharges from lagoon; non-process area stormwater and condensate from adjacent facilities, Rubicon Inc. and Dynamic Fuels LLC; miscellaneous operational and maintenance wastewaters; stormwater from formerly used process areas; and optional routing of cooling tower blowdown from the Synthetic Rubber and Chemicals Manufacturing Areas are to New River via local drainage, Segment No. 040404. New River is listed on the 2006 Final Integrated Report as being impaired for pathogen indicators, organic enrichment/low DO, and non-native aquatic plants. A TMDL is scheduled for completion for March 2011-2012.

Pathogen Indicators

Fecal coliform is found in discharges of sanitary wastewater and is a common parameter used to identify the source of pathogen indicator impairments. Since there are no discharges of sanitary wastewaters into Outfall 002, LDEQ has determined that there is no reasonable potential that these discharges would cause further pathogen indicator impairments in the receiving waterbody. Therefore, no additional requirements were added to this permit as a result of the pathogen indicator impairment.

Organic Enrichment/Low DO

The types of wastewaters permitted to discharge from Outfall 002 do not have a history of causing or contributing to ambient DO and nutrient impairments. DO and nutrient impairments are typically

attributed to improperly operated on-site domestic wastewater treatment systems, decentralized wastewater treatment, fill/drainage, crop production and unsewered residential districts. Additionally, no LDEQ finalized TMDL recognizes non-process waste streams, such as those consisting mainly of stormwater, as point source contributors to DO and nutrient impairments where TMDLs have been established for these impairments.

However, in an effort to address the impairments during the development of the draft permit, TOC monitoring has been identified as a means of measuring organic materials in a discharge. Given the types of discharges and the suspected cause of the impairments, this Office has determined that it is appropriate to retain the 50 mg/L daily maximum limitation for TOC on these outfalls as an indicator parameter to monitor the organic constituents in the waste stream. The TOC limitation was originally established using stormwater guidance, in a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) and has been used in water discharge permits for similar types of discharges for 20 years and considered protective of waters of the state.

Non-Native Aquatic Plants

Non-native aquatic plants are introduced into a waterbody through discharges such as ship ballast water, where the ballast water originates from a different area. Outfall 002 does not contain ship ballast water, therefore, LDEQ has determined there is no reasonable potential for these discharges to cause further impairments to the receiving water body. No additional requirements were added to this permit as a result of the non-native aquatic plant impairment.

A reopener clause will be established in the permit to include more stringent limits based on final loading allocations in the completed and approved TMDLs.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 are as follows:

TOXICITY TESTS	FREQUENCY
Acute static renewal 48-hour definitive toxicity test using Daphnia pulex	1/year
Acute static renewal 48-hour definitive toxicity test using fathead minnow (Pimephales promelas)	1/year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.02%, 0.03%, 0.04%, 0.05%, and 0.06%. The low-flow effluent concentration (critical dilution) is defined as 0.05% effluent.

X. Compliance History/DMR Review:

A. DMR Review - A DMR Review has been completed for Lion Copolymer Geismar, LLC, Geismar Facility covering the time frame of January 1, 2007 through February 2009. The following excursions were reported during this time frame:

DATE	PARAMETER	OUTFALL	REPORTED VALUE		PERMIT LIMITS	
			MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM
1/31/07	BOD_5	001	---	740 lbs/day	---	514 lbs/day
9/30/08	TSS	001	---	848 lbs/day	---	840 lbs/day
12/31/08	TOC	002	---	173.0 mg/L	---	50 mg/L

B. Inspections - A Compliance Evaluation Inspection was completed on November 1, 2007. The following items were noted by the inspector:

1. There was a BOD_5 excursion in January 2007 at Outfall 001.

2. The SPCC/SWPPP plan was not updated in accordance with the regulatory requirements of every three years.

C. Enforcement - an enforcement review was completed to identify any open enforcement actions at this facility. There were no open actions related to Lion Copolymer's wastewater permit.

The following list of enforcement actions have been issued to this facility for other media:

1. Radiation Compliance Order - RE-C-01-0081, issued July 23, 2002.

2. Hazardous Waste Order - HE-C-05-0308, issued January 31, 2007.

XI. "IT" Questions - Applicant's Responses

The "IT" Questions along with the applicant's responses can be found in the Permit Application dated April 4, 2008. This information can viewed at on LDEQ's Electronic Document Management System (EDMS) using the following link (See Page 50 of 103):

http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=36720577

XII. Endangered Species:

The receiving waterbody for Outfall 001, Subsegment 070301 of the Mississippi River Basin has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the pallid sturgeon which is listed as threatened and/or endangered species. The preliminary draft permit was submitted to the FWS for review on May 14, 2009 in accordance with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the pallid sturgeon. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

The receiving waterbody for Outfall 002, Subsegment 040404 of the Lake Pontchartrain Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS).

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. **Variances:**

No requests for variances have been received by this Office.

XVI. **Public Notices:**

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List